



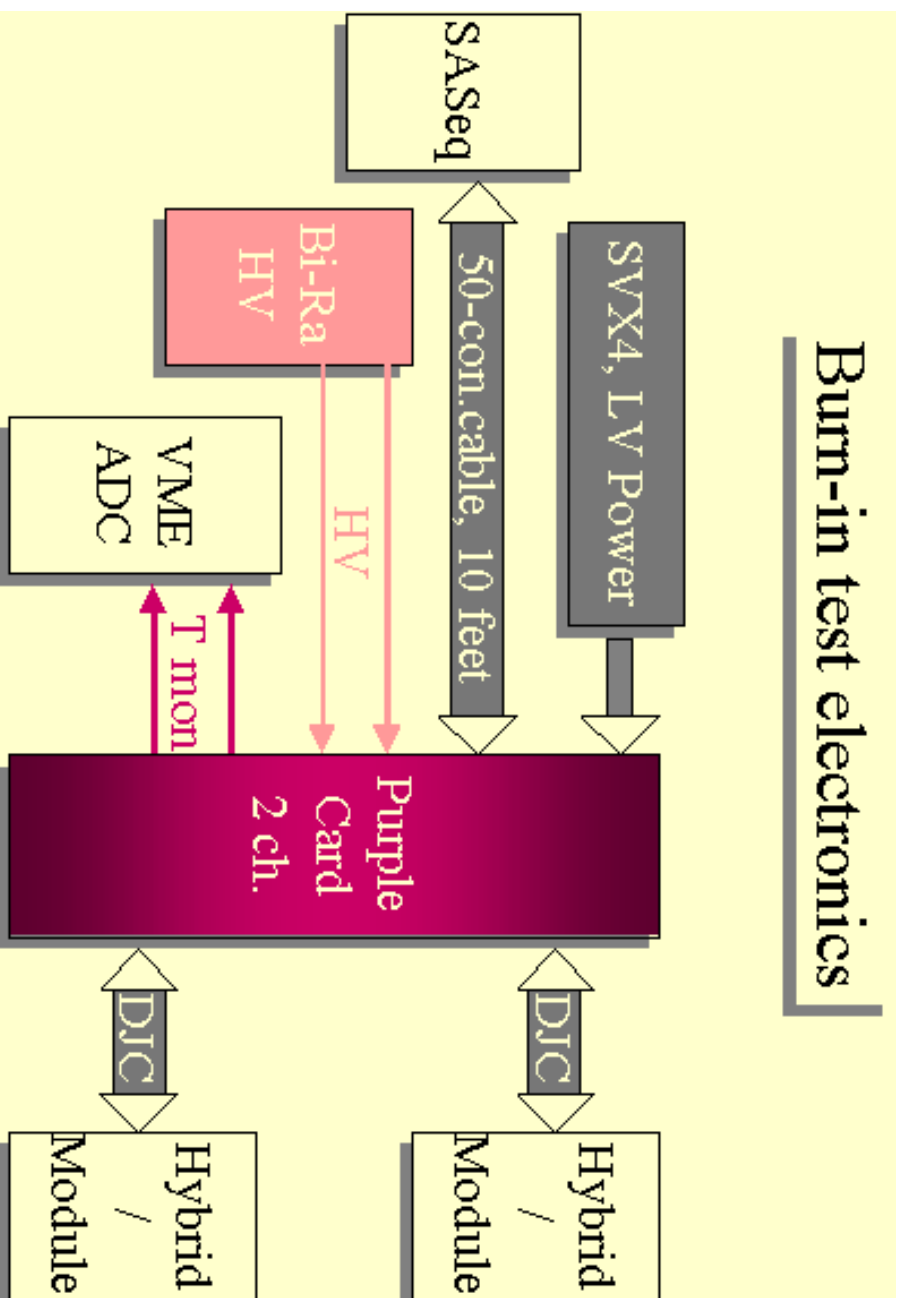
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First Yield Measurements with the new SVX4 chip on L0 hybrids

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The Teststand at Sidet

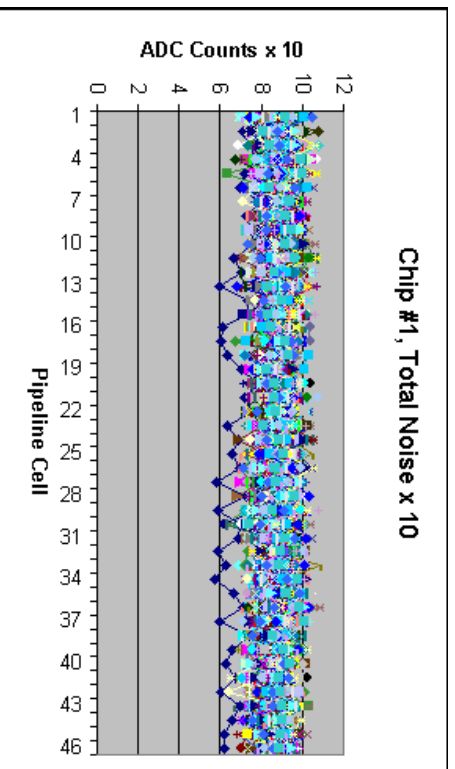
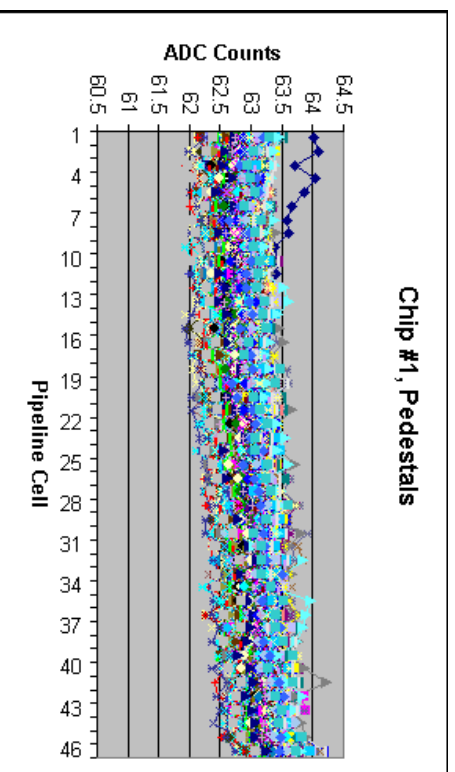


Everything worked fine with the new chip in our old setup!

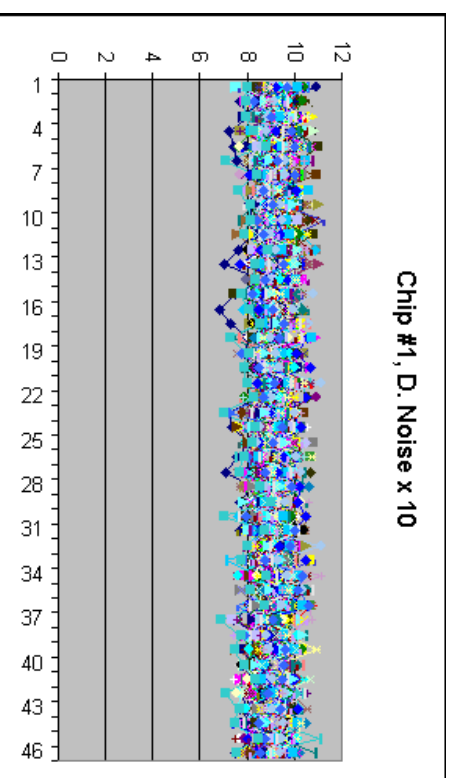
How the yield measurements are done

- Average pedestal of every channel as a function of the pipeline cell.
 - Take measurements (100 events) with mask = 0.
 - This is done for all pipeline cells.
- Average gain of every channel as a function of the pipeline cell.
 - The gain is calculated as
$$(\text{number of injected electrons}) / (\text{ADC}(\text{cal-inj}) - \text{ADC}(\text{peds}))$$
 - Take one measurement (100 events) with mask = 0, and one with mask = 9.
 - This is done for all pipeline cells.

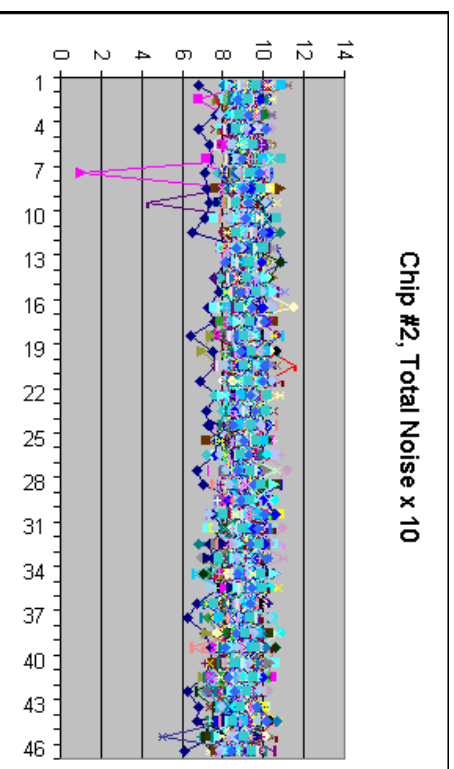
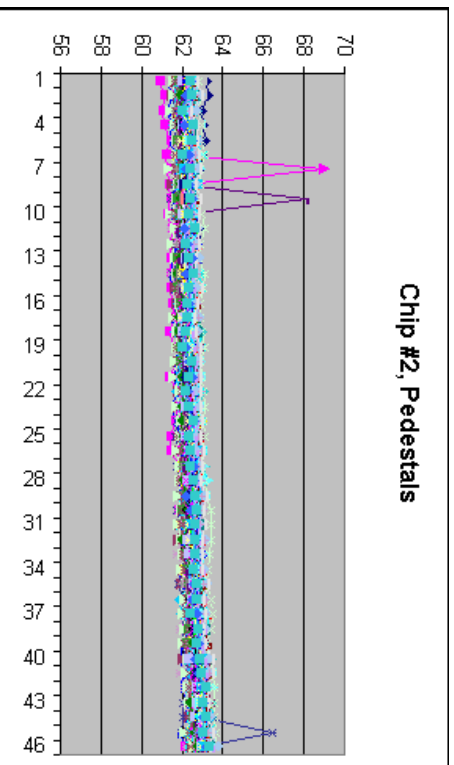
Pedestals and noise, 2-chip Hybrid #3



- Chip 1 is ok!
- There is still a slope of 0.5 ADC counts in the pedestal as a function of the pipeline.

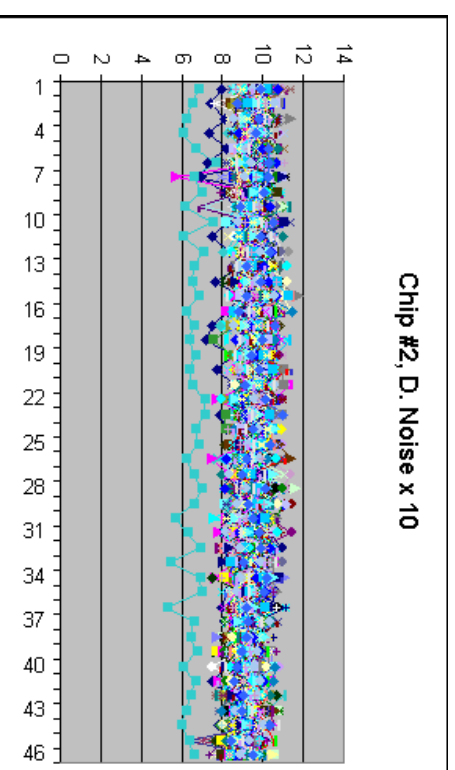


Pedestals and noise, 2-chip Hybrid #3

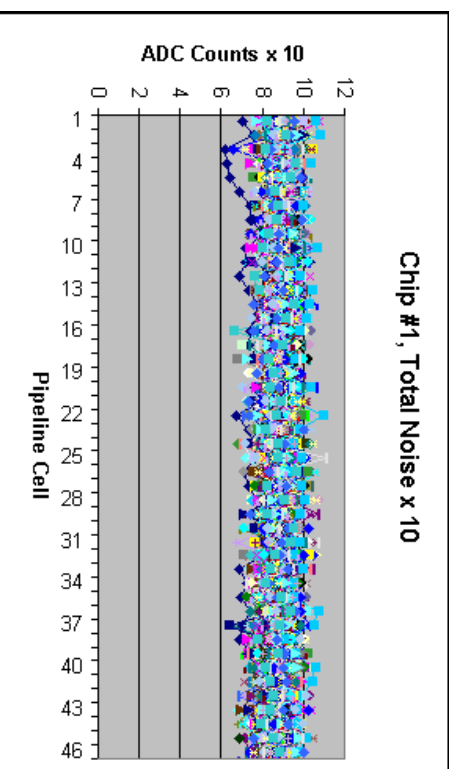
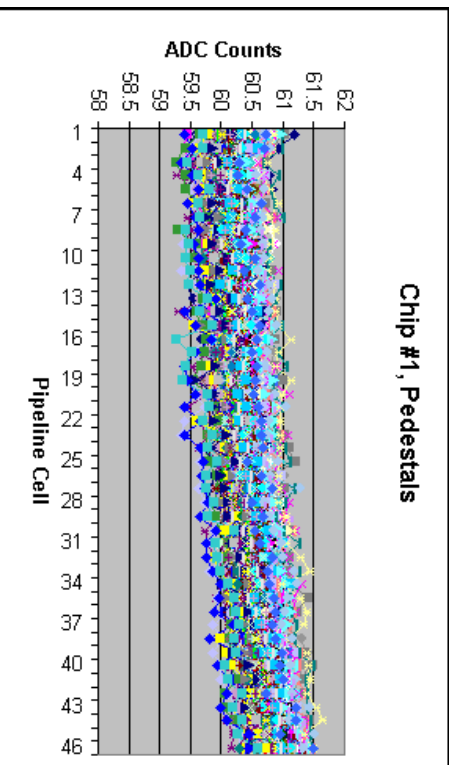


- Chip 2 has 3 bad pipeline cells

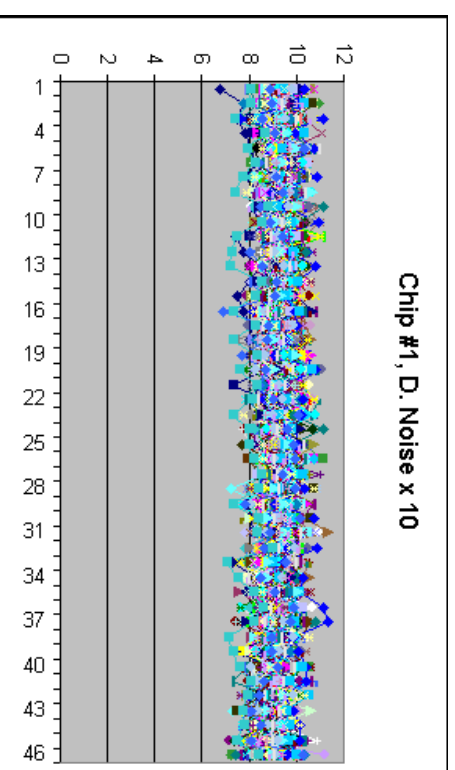
channel 7 pipeline cell 57
channel 9 pipeline cell 107
channel 45 pipeline cell 86



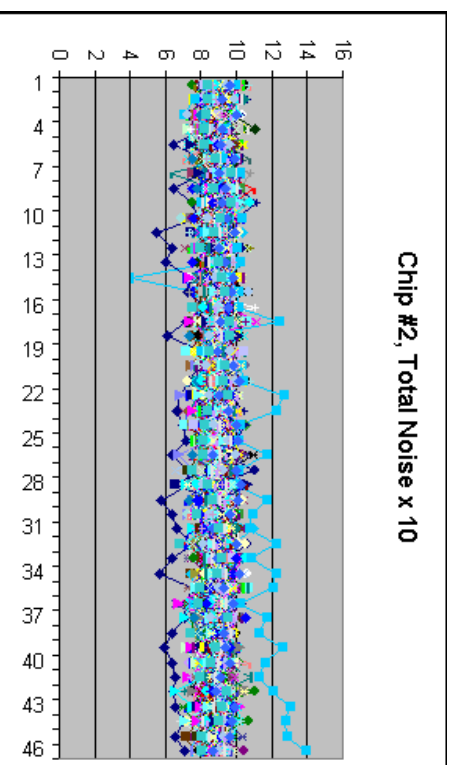
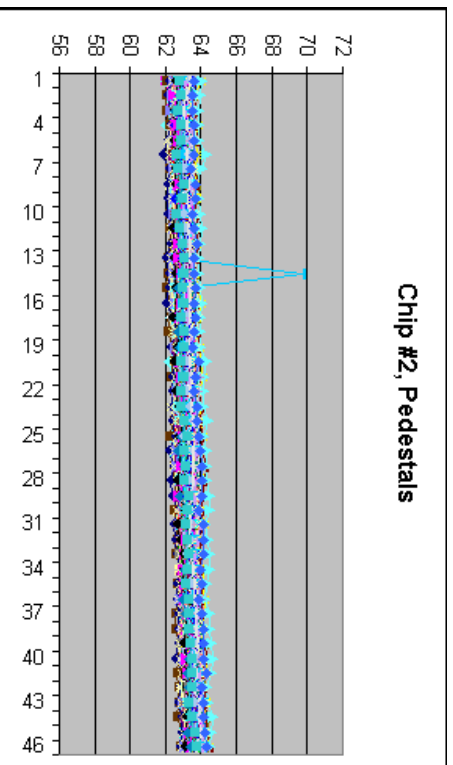
Pedestals and noise, 2-chip Hybrid #4



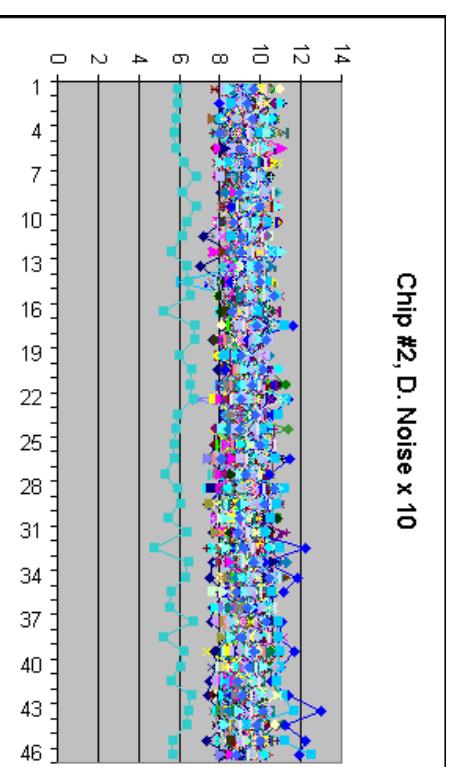
- Chip 1 is ok!



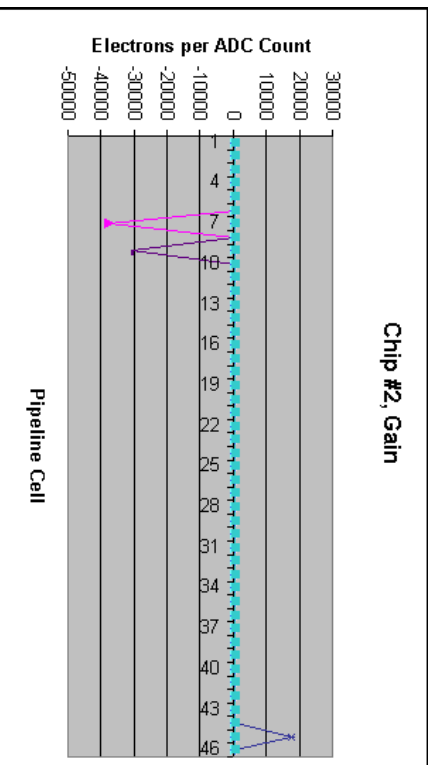
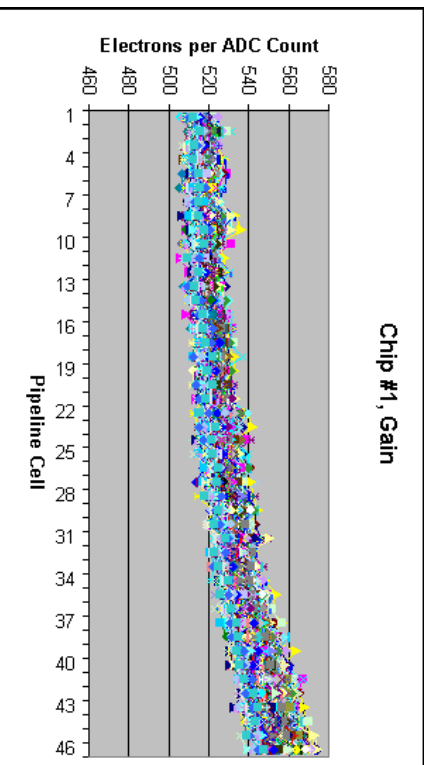
Pedestals and noise, 2-chip Hybrid #4



- Chip 2 has one bad pipeline cell (channel 9 pipeline cell 14)



Gain, 2-chip Hybrid #3



- Note that the y-axis does not show #el. per ADC Count!!

- Chip 1 is ok!

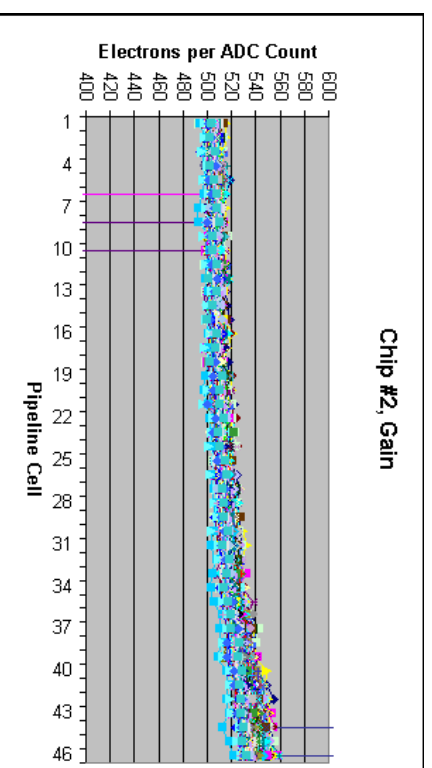
- Chip 2 has 3 bad pipeline cells

channel 7 pipeline cell 57

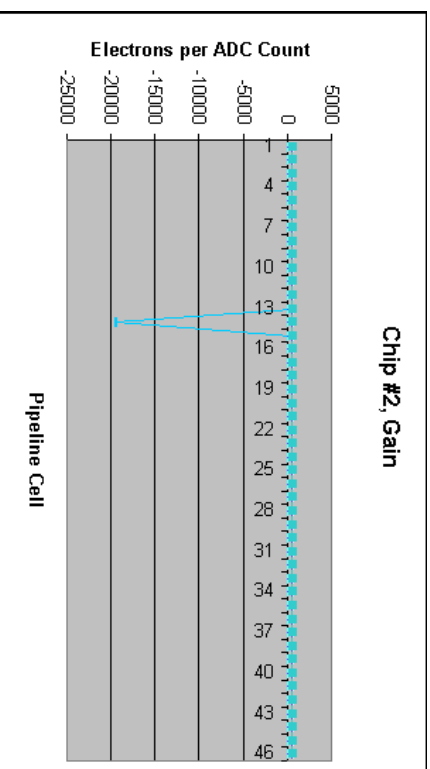
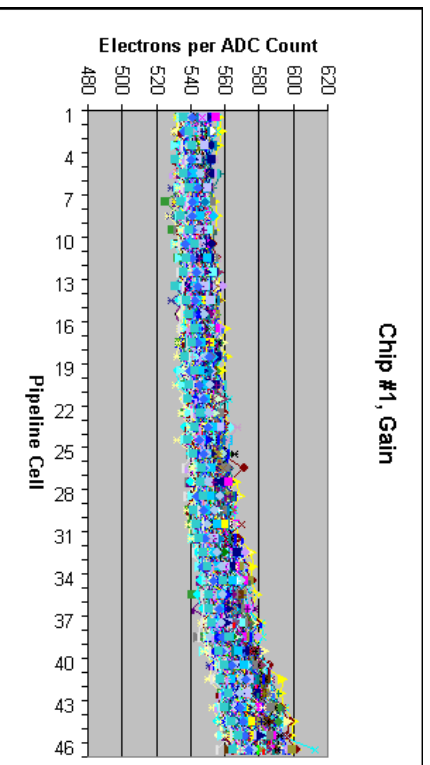
channel 9 pipeline cell 107

channel 45 pipeline cell 86

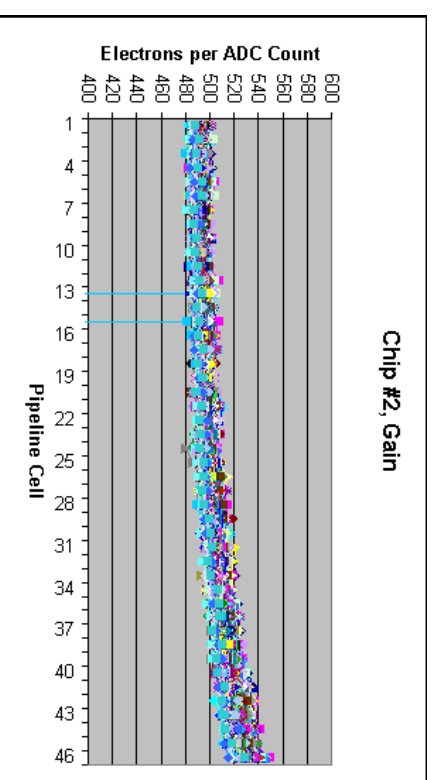
- There is still a slope in the gain as a function of the pipeline.



Gain, 2-chip Hybrid #4



- Note that the y-axis does not show #el. per ADC count!!
- Chip 1 is ok!
- Chip 2 has one bad pipeline cell (channel 9 pipeline cell 14).



Conclusions

- The yield is 50% ;-)
- There seems to be more bad pipeline cells than before.
- But we have only tested four chips, so we might have been unlucky!
- The slope in pedestal and gain over the pipeline are still there, and seem to be unchanged.
- To be continued....